

REMARKS

Claims 1, 8, 10, and 18 are amended. No new subject matter is added. Claims 1-20 remain in the case for consideration. Reconsideration of the claims is respectfully requested in light of the above amendments and the following remarks.

Claim Rejections – 35 USC § 112, second paragraph

Claims 1-4, 19 are rejected under 35 USC 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. In particular, it is alleged that the process of “operating correctly” does not recite the necessary steps within the claims to obtain the necessary headroom by using three volts and not using alternating current. The applicant respectfully disagrees for the following reasons.

The Examiner has given an improper basis for rejection. There are two distinct and separate requirements for claims under 35 USC §112, second paragraph (see MPEP 2171). These include A) the requirement that claims must set forth the subject matter that the applicants regard as their invention, and B) the requirement that the claims must particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant (see MPEP 2171).

The ground that the Examiner alleges, that the claims are “incomplete for omitting essential steps” is **NOT** a basis for a 35 USC 112, second paragraph rejection (emphasis added). Rather, the first sentence of MPEP 2172.01 explicitly states that “a claim which omits matter disclosed to be essential to the invention as described in the specification or in the other statements of record may be rejected under 35 USC 112, **first paragraph**, as not enabling” (emphasis added). Such essential matter (referring to the first sentence of MPEP 2172.01) may include missing elements, steps, or necessary structural cooperative relationships of elements described by the applicant as necessary to practice the invention (MPEP 2172.01, first paragraph, fourth sentence). For this reason, the alleged omission of essential steps is thus more properly characterized as a 35 USC §112, **first paragraph** rejection, and **NOT** a 35 USC § 112, **second paragraph** rejection (emphasis added).

The rejection of claims 1-4 and 19 under 35 USC §112, second paragraph, is therefore overcome.

Claims 8-17 and 20 are similarly (and improperly) rejected under 35 USC § 112, second paragraph, for the alleged omission of essential structural cooperative relationships of elements. The Examiner is politely asked to consider the first paragraph, fourth sentence of MPEP 2172.01 and how it modifies the first sentence of the same paragraph. As indicated above, the first sentence of MPEP 2172.01 explicitly states that “a claim which omits matter

disclosed to be essential to the invention as described in the specification or in other statements of record may be rejected under 35 USC §112, **first paragraph**, as not enabling" (emphasis added).

Consequently, the rejection of claims 1-4 and 19 under 35 USC §112, second paragraph, is therefore overcome.

It must be assumed, therefore, that the Examiner intended to reject these claims under 35 USC §112, **first paragraph**, as not enabling (emphasis added, see MPEP 2172.01, first sentence).

With respect to claim 1, it is amended to recite, *inter alia*, directing said selected amount of current to flow through said diode; wherein at least two current sources are provided with a headroom voltage sufficient to produce said at least two amounts of current without being connected to an alternating current coupling circuit. This amendment is fully supported by the original application at, for example, original claim 1. Thus, the indefinite term "operating correctly" is removed from claim 1. The applicant therefore believes that all 35 USC §112 rejections to claims 1-4 and 19 are removed.

With respect to claim 8, it is alleged that no structural relationship has been recited between the device and the circuit because the use of "capable" does not define structural relationship. Consequently, claim 8 is amended to recite, *inter alia*, **a first current source connected to said first and second transistors** and configured to generate a first amount of current; and **a second current source connected to said second transistor** and configured to generate a second amount of current. This amendment is fully supported by the original application at, for example, original claim 8. Thus, there is clearly a structural relationship defined because the current sources and the transistors. Additionally, the disputed term "capable" is removed. The applicant therefore believes that all 35 USC §112 rejections to claims 8-17 and 20 are removed.

Claim 10 is amended for consistency with claim 8. This amendment is fully supported by the original application at, for example, original claim 10.

With respect to claim 18, the claim is rejected because of the indefinite term "operating correctly." Thus, claim 18 is amended to recite, *inter alia*, that the generating means is provided with a headroom voltage sufficient for generating said at least two amounts of current without said circuit being connected with an alternating current coupling circuit. This amendment is fully supported by the original application at, for example, original claim 1. Thus, the term "operating correctly" is no longer found in claim 18, thereby removing all 35 USC §112 rejections to claim 18.

Claim Rejections, 35 USC § 102

Claims 1-6 and 8-20 are rejected under 35 USC 102(e) as being anticipated by USPN 6,618,406 to Kaminishi (hereafter, "Kaminishi"). The applicant respectfully disagrees for the following reasons.

Claim 1 recites a method for driving a diode comprising, *inter alia*, providing a power supply input voltage up to about three volts. It is alleged that Kaminishi FIG. 2 discloses this feature.

The only difference between Kaminishi FIG. 1 and FIG. 2 is a second constant current source I2 (compare FIGS. 1 and 2; column 17, lines 4-10). Both Kaminishi FIGS. 1 and 2 have a pre-driver circuit 100 and an output circuit 200 (compare FIGS. 1 and 2; column 13, line 4). The pre-driver circuit 100 introduces shaped and amplified differential pulse signals into the output circuit 200, which is responsible for driving the LD (column 13, lines 33-36).

Kaminishi FIGS. 1 and 2 have both a voltage Vcc and a voltage Vcs (compare FIGS. 1 and 2). Kaminishi refers to Vcc as a "power source Vcc" (column 13, line 13) or a "power supply voltage Vcc" (column 14, line 43). Kaminishi teaches the "source voltage Vcs" is for driving the pre-driver circuit 100 (column 14, line 7). Thus, Kaminishi's power supply voltage corresponds to Vcc and Kaminishi's source voltage for driving the pre-driver circuit corresponds to Vcs.

The Examiner alleges that Kaminishi column 14, lines 35-40 teaches that FIG. 2 uses a 3V source. To be more precise, this passage of Kaminishi actually refers to FIG. 1, and it says that the *source voltage* (Vcs) is 3.0 V (emphasis added). It does not teach that the power supply voltage Vcc is 3.0 V. In fact, Kaminishi teaches that, with respect to FIG. 2 and FIG. 8 (FIG. 8 is a specific example of FIG. 2), that *the power supply voltage Vcc is larger than the source voltage Vcs* (column 17, line 11 and column 17, lines 26-27; emphasis added).

Consequently, Kaminishi actually teaches that the power supply voltage Vcc is greater than 3.0 V (emphasis added). This is in keeping with Kaminishi's stated desire of achieving a LD driver circuit that can guarantee fully functional operation on a single 3.3 V *power supply* (column 2, lines 21-23; emphasis added).

Thus, Kaminishi fails to anticipate claim 1 because it does not teach the element of providing a power supply input up to about 3 V (see MPEP 2131). Claims 2-4 and 19 inherently contain the features of claim 1. Consequently, Kaminishi also fails to anticipate claims 2-4 and 19 because it does not teach all the features inherent to the claims.

Claim 5 recites a circuit comprising, *inter alia*, a power supply input voltage up to about 3 volts. Claims 6 and 7 inherently contain this feature. This feature is substantially

similar to the feature discussed above with respect to claim 1. Consequently, Kaminishi fails to anticipate claims 5-7 for at least the same reason as claim 1 (see MPEP 2131).

Claim 8 recites, *inter alia*, a first transistor, a second transistor, a first current source connected to the first and second transistors and configured to generate a first amount of current, and a second current source connected to the second transistor and configured to generate a second amount of current. The claim also recites that the second amount of current and a third amount of current equal to the second amount of current minus the first amount of current is configured to be delivered to a device.

Referring to Kaminishi FIG. 2, assume that Kaminishi's laser diode LD corresponds to the recited device and that transistors Q5 and Q6 correspond to the recited first and second transistors. Kaminishi teaches that current sources I1 and I2 are both constant current sources (FIG. 2; column 13, line 44; column 17, lines 8-9). Differential signals are input to the bases of transistors Q5 and Q6 (FIG. 2; column 13, lines 39-40). Thus, transistors Q5 and Q6 are alternately turned off and on.

If transistor Q5 is turned off, then the total current supplied to the LD is equal to $I1 + I2$ (Kirchoff's Current Law). If transistor Q6 is turned off, then the total current supplied to LD is equal to $I2 - I1$ (Kirchoff's Current Law). Thus, Kaminishi FIG. 2 fails to supply the device with a current equal to the current produced by the second current source, contrary to the features recited in claim 8. Consequently, Kaminishi fails to anticipate claim 8 because it does not teach the claimed invention in as much detail as contained in the claim (see MPEP 2131).

Claims 9-17 and 20 inherently contain the features of claim 8. Consequently, Kaminishi also fails to anticipate claims 9-17 and 20 because it fails to teach all the features inherent to those claims (see MPEP 2131).

Claim 18 recites a circuit comprising, *inter alia*, a means for providing a power supply input voltage, said power supply input voltage up to about three volts. This feature is substantially similar to the feature disclosed above with respect to claim 1 and claim 5. Consequently, Kaminishi fails to anticipate claim 18 for at least the same reason as claims 1 and 5. (see MPEP 2131).

Claim Rejections, 35 USC § 103

Claim 7 is rejected under 35 USC §103(a) as being unpatentable over Kaminishi. The applicant respectfully disagrees for the following reason.

Claim 7 inherently contains the features of claim 5. It was previously explained how Kaminishi fails to teach all the features of claim 5. Consequently, Kaminishi fails to

establish a *prima facie* case of obviousness with respect to claim 7 because it fails to teach each and every feature inherent to the claim (see MPEP 2143.03).

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-20 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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I hereby certify that this correspondence is being transmitted to the U.S. Patent and Trademark Office via facsimile number (703) 872-9306, on January 22, 2004.

Signature


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